

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. *(previously presented)* A system for optimization of a scene graph, comprising:
 - an optimization base comprising logic for at least one atomic optimization;
 - an optimization registry listing said at least one atomic optimization, and further listing parameter and priority information associated with said at least one atomic optimization;
 - an optimization manager for creating, configuring, and applying an optimization process to an input scene graph, wherein said optimization process comprises logic for an atomic optimization; and
 - an optimization configuration manager for accepting user configuration information to said optimization process, said user configuration information comprising selection of one or more of said at least one atomic optimization.

2. *(original)* The system of claim 1, further comprising a user interface through which a user can provide said user configuration information to said optimization configuration manager.

3. *(currently amended)* The system of claim 2, wherein said user interface is provided to a user by a modeler that produces the scene graph to be optimized.

4. *(cancelled)*

5. *(previously presented)* The system of claim 1, wherein said user configuration information comprises a specification of parameter values associated with said selected atomic optimization.

6. *(original)* The system of claim 1, wherein said at least one atomic optimization comprises a collapse geometry optimization.

7. *(original)* The system of claim 1, wherein said at least one atomic optimization comprises a collapse hierarchy optimization.

8. *(original)* The system of claim 1, wherein said at least one atomic optimization comprises a convert image optimization.

9. *(original)* The system of claim 1, wherein said at least one atomic optimization comprises a convert transform optimization.

10. *(original)* The system of claim 1, wherein said at least one atomic optimization comprises a create bounding boxes optimization.

11. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a flatten hierarchy optimization.

12. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a generate macro texture optimization.

13. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a normalize texture coordinates optimization.

14. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a promote attributes optimization.

15. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a remove attributes optimization.

16. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a resize image optimization.

17. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a share attributes optimization.

18. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a spatial partition optimization.

19. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a strip triangles optimization.

20. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a transform alpha optimization.

21. (*original*) The system of claim 1, wherein said at least one atomic optimization comprises a vertex blending optimization.

22. (*cancelled*)

23. (*previously presented*) A method of optimization of a scene graph, comprising the steps of:

- a. receiving an input scene graph;
- b. creating an optimization process; and
- c. applying the optimization process to the input scene graph

to create a scene graph optimized for at least one of

enhancement of traversal time,

enhancement of drawing time,

reduction of memory usage,

efficiency of data manipulation, and

targeting a specific rendering platform,

wherein said step b comprises the steps of:

- i. receiving user input identifying an atomic optimization and any associated parameters;
- ii. accessing the atomic optimization via an optimization registry;
- iii. incorporating the atomic optimization into the optimization process;
- iv. if the user input comprises parameters associated with the optimization, configuring the optimization process according to the parameters; and
- v. if the user input does not comprise parameters, configuring the optimization process according to default parameters.

24. *(original)* The method of claim 23, wherein the atomic optimization comprises a collapse geometry optimization.

25. *(original)* The method of claim 23, wherein the atomic optimization comprises a collapse hierarchy optimization.

26. *(original)* The method of claim 23, wherein the atomic optimization comprises a convert image optimization.

27. *(original)* The method of claim 23, wherein the atomic optimization comprises a convert transform optimization.

28. (*original*) The method of claim 23, wherein the atomic optimization comprises a create bounding boxes optimization.

29. (*original*) The method of claim 23, wherein the atomic optimization comprises a flatten hierarchy optimization.

30. (*original*) The method of claim 23, wherein the atomic optimization comprises a generate macro texture optimization.

31. (*original*) The method of claim 23, wherein the atomic optimization comprises a normalize texture coordinates optimization.

32. (*original*) The method of claim 23, wherein the atomic optimization comprises a promote attributes optimization.

33. (*original*) The method of claim 23, wherein the atomic optimization comprises a remove attributes optimization.

34. (*original*) The method of claim 23, wherein the atomic optimization comprises a resize image optimization.

35. (*original*) The method of claim 23, wherein the atomic optimization comprises a share attributes optimization.

36. (*original*) The method of claim 23, wherein the atomic optimization comprises a spatial partition optimization.

37. (*original*) The method of claim 23, wherein the atomic optimization comprises a strip triangles optimization.

38. (*original*) The method of claim 23, wherein the atomic optimization comprises a transform alpha optimization.

39. (*original*) The method of claim 23, wherein the atomic optimization comprises a vertex blending optimization.

40. (*previously presented*) The method of claim 23, further comprising the step of:

 d. performing post optimization processing.

41. (*cancelled*)

42. (*previously presented*) The method of claim 23, further comprising the step of:

 d. outputting an optimized scene graph.

43. (*cancelled*)

44. *(previously presented)* A computer program product comprising a computer usable medium having computer readable program code means embodied in said medium for causing an application program to execute on a computer that optimizes a scene graph, said computer readable program code means comprising:

a. computer readable program code means for causing the computer to receive an input scene graph;

b. computer readable program code means for causing the computer to create an optimization process; and

c. computer readable program code means for causing the computer to apply the optimization process to the input scene graph to create a scene graph optimized for at least one of

enhancement of traversal time,

enhancement of drawing time,

reduction of memory usage,

efficiency of data manipulation, and

targeting a specific rendering platform,

wherein said computer readable program code means b comprises:

i. computer readable program code means for causing the computer to receive user input identifying an atomic optimization and any associated parameters;

ii. computer readable program code means for causing the computer to access the atomic optimization via an optimization registry;

iii. computer readable program code means for causing the computer to incorporate the atomic optimization into the optimization process;

iv. computer readable program code means for causing the computer to configure the optimization process according to the parameters, if the user input comprises parameters associated with the optimization; and

v. computer readable program code means for causing the computer to configure the optimization process according to default parameters, if the user input does not comprise parameters.

45. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a collapse geometry optimization.

46. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a collapse hierarchy optimization.

47. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a convert image optimization.

48. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a convert transform optimization.

49. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a create bounding boxes optimization.

50. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a flatten hierarchy optimization.

51. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a generate macro texture optimization.

52. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a normalize texture coordinates optimization.

53. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a promote attributes optimization.

54. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a remove attributes optimization.

55. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a resize image optimization.

56. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a share attributes optimization.

57. *(original)* The computer program product of claim 44, wherein the atomic optimization comprises a spatial partition optimization.

58. (*original*) The computer program product of claim 44, wherein the atomic optimization comprises a strip triangles optimization.

59. (*original*) The computer program product of claim 44, wherein the atomic optimization comprises a transform alpha optimization.

60. (*original*) The computer program product of claim 44, wherein the atomic optimization comprises a vertex blending optimization.

61. (*previously presented*) The computer program product of claim 44, further comprising:

 d. computer readable program code means for causing the computer to perform post optimization processing.

62. (*cancelled*)

63. (*previously presented*) The computer program product of claim 44, further comprising:

 d. computer readable program code means for causing the computer to output an optimized scene graph.

64. (*currently amended*) A method of optimization of a scene graph, comprising the steps of:

- a. receiving an input scene graph;
- b. creating an optimization process, wherein said step b comprises the steps of:
 - ~~_____~~ i. ~~receiving user input identifying an atomic optimization and any associated parameters;~~
 - ~~_____~~ ii. ~~accessing the atomic optimization via an optimization registry;~~
 - ~~_____~~ iii. ~~incorporating the atomic optimization into the optimization process;~~
 - ~~_____~~ iv. ~~if the user input comprises parameters associated with the optimization, configuring the optimization process according to the parameters;~~
 - ~~_____~~ v. ~~if the user input does not comprise parameters, configuring the optimization process according to default parameters;~~
- c. applying the optimization process to the input scene graph to create a scene graph optimized for at least one of
 - enhancement of traversal time,
 - enhancement of drawing time,
 - reduction of memory usage,
 - efficiency of data manipulation, and
 - targeting a specific rendering platform; and
- d. performing post optimization processing, wherein said step d comprises the steps of:

- i. performing validity checks on the optimized scene graph;
- ii. creating statistics based on the optimization process; and
- iii. outputting the statistics.

65. *(currently amended)* A computer program product comprising a computer usable medium having computer readable program code means embodied in said medium for causing an application program to execute on a computer that optimizes a scene graph, said computer readable program code means comprising:

first computer readable program code means for causing the computer to receive an input scene graph;

second computer readable program code means for causing the computer to create an optimization process; and

third computer readable program code means for causing the computer to apply the optimization process to the input scene graph to create a scene graph optimized for at least one of

enhancement of traversal time,

enhancement of drawing time,

reduction of memory usage,

efficiency of data manipulation, and

targeting a specific rendering platform; and

fourth computer readable program code means for causing the computer to perform post optimization processing[.]

~~wherein said second computer readable program code means comprises:~~

~~_____ i. _____ computer readable program code means for causing the computer to receive user input identifying an atomic optimization and any associated parameters;~~

~~_____ ii. _____ computer readable program code means for causing the computer to access the atomic optimization via an optimization registry;~~

~~_____ iii. _____ computer readable program code means for causing the computer to incorporate the atomic optimization into the optimization process;~~

~~_____ iv. _____ computer readable program code means for causing the computer to configure the optimization process according to the parameters, if the user input comprises parameters associated with the optimization; and~~

~~_____ v. _____ computer readable program code means for causing the computer to configure the optimization process according to default parameters, if the user input does not comprise parameters, and~~

wherein said fourth computer readable program code means comprises:

i. computer readable program code means for causing the computer to perform validity checks on the optimized scene graph;

ii. computer readable program code means for causing the computer to create statistics based on the optimization process; and

iii. computer readable program code means for causing the computer to output the statistics.